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ABSTRACT

In examining why performance scores on writing tests so often fail to improve in neat positive intervals for individuals and groups, testers have sought the answer in differences in test conditions on progressive retestings. Two other sources of performance variation are possible: the U-shaped learning curve or phenomenon of apparent regression during new skills acquisition and performance strategies; and the ill-defined nature of the writing task which allows the student writer to determine to a large extent the difficulty level of the writing attempt regardless of the testers' intention. A discourse typology was developed for identifying the kind of task the writer sets himself or herself. Abstract to concrete discourse functions; varied time focuses; and discourse narration, description, or commentary are all relevant dimensions within the chronology of the acquisition and development of text design strategies. These strategies can be pre-schema, open-schema, or closed-schema. Task construction should be taken into account when assessing growth or development of writing skills. (Author/CM)

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UNEXPECTED DIRECTIONS OF CHANGE IN STUDENT WRITING PERFORMANCE

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ABSTRACT

Why do performance scores on writing tests so often fail to improve in neat positive intervals for individuals and groups? So far, testers have sought the answer in differences in test conditions on progressive retestings. This paper discusses two other sources of performance variation: the U-shaped learning curve, or the phenomenon of apparent regression during the acquisition of new skills and performance strategies; and the ill-defined nature of the writing task, which allows the student writer to determine to a large extent the difficulty level of what he attempts regardless of the tester's intention. The paper presents a discourse typology for identifying the kind of task the writer sets himself and argues the need for taking task construction into account when assessing growth or development of writing skills.

UNEXPECTED DIRECTIONS OF CHANGE IN STUDENT WRITING PERFORMANCE

by Catharine Lucas Keech, AERA, 1982.

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A striking problem which recurs repeatedly in all direct measures of writing performance is the instability of student performance from one occasion to another. Users of essay tests are troubled by the frequency with which individuals and even whole groups may fail to produce consistent improvement on these measures over time--in some cases, even after concentrated writing instruction. This phenomenon has proved baffling and frustrating to teachers, researchers, and program evaluators. As children learn to write better, their scores on essay tests should simply go up. If the scores don't improve, we may be forced to conclude that students have not improved their writing abilities.

Of course, one must examine the test measures used: were the two test occasions truly parallel in what they required students to do, and were the tests scored in the same manner? Testers have reported improving performance stability substantially by improving inter-rater agreement, phrasing prompts carefully to make demands more parallel, taking longer samples to improve discrimination of the measure, and taking more than one sample at each test sitting. (Diederich, 1974; Godschalk, et al., 1976; Breland and Gaynor, 1979.) Some unexpected drops in score can be explained , in addition, by those uncontrolled conditions traditionally cited: lack of motivation, having a "bad day," failure to find good material to write about, or external distractions as when a hated subsitute teacher administers the posttest on a day of campus riots in the middle of spring fever, in which case scores may drop for a whole class.

All such factors, however, are as likely to affect pretest as posttest scores: although program evaluators may examine test conditions more assiduously

for differences which might account for disappointing gains in posttest scores, it is equally possible that any impressive signs of improvement from pre to posttest may be due to factors which artificially depressed pre test performance, creating an inflated picture of growth. In spite of these uncertainties, program evaluators in California and other states have not been driven to abandon holistic scoring of writing samples in favor of the more reliable but less valid multiple-choice test format. (Spandel and Stiggins,1980.) But adhering to the practice of using actual writing samples in evaluating student growth in composing skills requires not only that evaluators control test conditions more rigorously but also that researchers begin to look more closely at what changes when students write on different occasions. The phenomenon of unexpected drops in scores or failure to improve in statistically significant increments on direct measures of writing is too widespread among both individuals and groups to be adequately explained either by random factors or by poor instruction--especially since, over the long run, improvement does finally seem to occur, whatever the ups and downs along the way.

Two aspects of the development of writing ability have so far, I believe, been inadequately taken into account by researchers and evaluators confronting drops in performance scores on the part of students who should perform better: (1) the general phenomenon of the U-shaped learning curve, or the existence in all complex learning of plateaus or even apparent regression as learners move from one level of competency to the next (Piaget, 1977; Goodman, 1979; Miller, 1980; Bever, 1982); and (2) the special open-ended or ill-defined nature of writing tasks which allow (even require) the writer to set for himself to some extent the difficulty level of what he attempts to do. (Bereiter and Scardamalia, 1978.)

In this paper I would like briefly to state the case against current attempts to measure growth using methods developed to measure absolute proficiency levels--measures which may be misleadingly affected by developmental unevennesses in performance. Then I will examine in some detail the problem of task definition for all longitudinal research in writing, explaining how a refined discourse typology might help us identify and describe more precisely what students do differently from one writing occasion to the next. Finally, I explore briefly new ways of asking why and how students change the difficulty level of writing tasks intended by the tester to be parallel in demands.

Developmental Unevenness and Current Measures

It would be odd if learning to write were somehow exempt from the roller-coaster character of learning documented by cognitive psychologists (cited above). In fact, many writing teachers have recognized some manifestations of the non-linear nature of improvement in developing writers: for instance at the sentence level, the appearance of fragments that so often accompanies the onset of subordinate clauses or noun appositives; or the run-together sentences that appear when students start developing complex ideas using sentences that stand in close opposition or apposition to one another, which they want to join with an introductory adverb rather than a subordinate conjunction. Similarly, elaborately expanded subjects, or the use of abstract nouns as subjects, frequently create predication errors or verb-subject agreement errors the student would have no difficulty avoiding in his earlier, simpler, syntax. Analytic error counts and even holistic responses may determine that these writers-in-transition are less able performers than before, when actually each of these flaws can be seen in context as signalling movement toward a higher level of competency.

Developmental evaluation is further complicated when the complexity of the cognitive task being attempted causes a writer to shift attention away from

rhetorical niceties she may have mastered but which may never become fully automatic, and so breakdown when not attended to. Freedman and Pringle (1980) point out in a study of college writers that conventional rhetorical evaluations of writing are based on factors which do not improve, and may actually suffer, when a writer is attempting to solve a communication problem that lies at the outer limits of her cognitive processing capacity. They conclude:

> "In evaluating their students' writing, teachers seem to (lack) a sense of the complex nature of...development, in which growth in one dimension may entail momentary awkwardness in another...When teachers ignore the congitive aspects of the (writing) process and focus only on the rhetorical features of the completed product,...they are not in a position to anticipate the kind of breakdown that occurs when the intellectual task is made more complex. Further,...they may actually impede intellectual growth...(The) short-run effects of such evaluation are probably to encourage students to operate on the safe levels they have already mastered..."
>
> (p. 323)

Thus, students may write more awkwardly, less correctly, less fluently, either because they are acquiring new forms at the word or sentence level or because they are struggling to express cognitive functions for which their current language forms are as yet inadequate. A third developmental struggle has received even less investigation than these two: how the student defines the rhetorical task at the text or discourse level. In whole-text planning, what does the student set out to do, and how does he intend to do it? How does he conceive of the artifact he is about to create? What kind of text does he think in terms of, as he pursues his ideas and formulates his sentences? To what extent does he conceive of the whole text at all?

Recent research in discourse grammars and text design (Stein and Glenn, 1979; Meyer, 1975, and others) and modern discourse theorists (including Bain, 1890; Kinneavy, 1979; Britton, 1975; and others: see D'Angelo, 1976) have reestablished the importance of distinctions among genre or types of writing which the learning writer must begin to differentiate, mastering a variety of composing

strategies to accomplish different rhetorical purposes, such as reporting, explaining, persuading. Deciding what he wants to do (tell a story, explore his feelings, change someone's course of action, etc.) and selecting the appropriate composing strategies to accomplish these aims are two important parts of representing or constructing the writing task--two processes particularly subject to the writer's stage of development, which may interact in confusing ways with the writing assignment. It is in the areas of text design, rhetorical purpose and strategy, that the ill-defined nature of the writing task comes into play, creating a particular set of problems for measuring development in writing ability.

The Ill-Defined Writing Task

It is crucial in evaluation research to distinguish between the given task or actual text of the writing assignment--with its particular set of constraints and options, expressed or implied, and with its virtually infinite set of possible realizations--and on the other hand the constructed task, the set of constraints actually honored and the options actually chosen by the student, as seen in the text the student produces. Test makers may believe they have carefully constrained a particular task to elicit a particular kind of response, but as Murphy, Carroll and Kinzer (1982) have demonstrated, students are capable of creating totally unexpected task versions or notions of what they are "supposed to do." (See also Keech and McNelly, 1982.)

Unlike other performance areas --for instance, music, where a learner is given a more difficult piece to play, or mathematics, where both teacher and student are aware when a more difficult problem is offered, or sports competitions where more advanced dives earn more points-- composition has no such well-defined, easily ranked tasks or gradations of performance levels that can be controlled by the teacher or evaluator. It is possible

to give students the same assignment on two different occasions and have them construct such different composing tasks that their two responses are hardly comparable. The student might appear an expert on the first writing, while performing like a novice as he attempts on the second writing a far more complex problem. Sufficiently open-ended assignments, such as "Write about a favorite object," may be offered again and again over all the years of a writer's career, from first laborious printings to his adult years of proficient composing; the actual task difficulty will increase in proportion to his writing ability. The very ability to define a task more richly and complexly may be one of the most important writing skills, developing slowly along with syntax and sense of paragraphing.

Bereiter and Scardamalia (1979), recognizing that writing tasks are inherently ill-defined, are unconcerned when changes in young writers are not reflected in conventional scores on their writing:

> "...(Our) most successful experiments so far in affecting children's composing processes have not led to discernible overall improvements, as judged by impressionistic ratings...This would be discouraging if the purpose were to get children to do a better job of pursuing the same goals as before. When, however, the purpose is to get children to tackle problems they have not tackled before, such impressionistic results are immaterial. It is what they are doing differently that counts, not how well they are doing it compared to how well they previously did something of a different sort." (pp. 83-84, ms.)

Evaluators trying to document growth or development in writers confront a choice: either narrow task constraints sufficiently in the writing assignment to keep writers doing the same kind of thing on trials 1 and 2, or begin to find out how to describe what children do differently from one occasion to the next, how to interpret that difference, and finally how to measure the development it implies.

So far, evaluators have quite properly concentrated on trying to make task demands similar for repeated writing samples used to measure improvement over time. It seems obvious that changes in performance abilities may be obscured if a student is encouraged to write a personal experience reminiscence on one occasion and an argumentative essay on another: if nothing else, it is difficult to compare these responses quantitatively, scoring them under the same rubric. At least the very rough distinction between narration and exposition is typically made, with many program evaluators eschewing the earlier practice, associated with the Bay Area Writing Project model of holistic scoring, of allowing students to respond to a writing stimuli using almost any form of writing, sometimes including poetry.

Two dangers are inherent in attempts to narrow task constraints to reduce variation in task construal for purposes of improving comparison of samples, however. The first is simply that the more text testers add to the writing assignment, the less guarantee they have that students will read and correctly interpret all of the guidelines--in the extreme cases, students may either ignore a lengthy set of instructions, or may become so embroiled in working out exactly what the tester wants that they are distracted from their central task of trying to generate meaningful, coherent text. The second danger appears only when test instructions are so clear and so good that they actually succeed in narrowing the task and making student responses easy to compare and score because the student is being asked to do so little. Writing tests can be made to be little more than direction following, requiring students to show proficiency in the use of certain written conventions, but failing altogether to test the student's

ability to actually "author" a text, as Moffett (1979) identifies the highest composing skills. Too narrowly specified tasks maximize control over what is attempted but may invalidate the writing test, since the test no longer reveals how the student frames the rhetorical problem, sets goals, chooses strategies, juggles constraints, revises inner speech--in short, really composes.

Ironically, it may be by looking at samples from assessments in which students were given maximum freedom to choose their purposes and strategies in response to a topic idea that we are best able to discover what kinds of writing, what discourse options are most likely to be elicited by certain topics, regardless of instructions to the writer. The early BAWP assessment model, as represented by the six-year hodge-podge of topic types used at Sir Frances Drake High School (see Table 1), while generating scores that soar and dip in unpredictable ways from year to year, provides a rich data source for discovering patterns of task construal in response to different kinds of topics as well as in relation to grade level or experience.

Insert Table 1

The Drake Longitudinal Sample

The Drake teachers who composed the test questions shown in Table 1 deliberately made them as open as possible for several reasons. They were interested in how students might construe the task: they wanted to know whether their instructional program had succeeded in teaching students the large range of strategies that might be used effectively to solve a particular rhetorical problem. Since they were attempting to teach many forms of writing, they did not want a restriction on the test to suggest that only one of these kinds was valid or important.

Further, they were unconcerned, in this pioneering effort, to make tasks similar from year to year. Initially their goal was simply to create a stimuli that would allow students to begin writing quickly, with maximum enthusiasm and ample material for composing; hence, the emphasis on personal feelings. Later they wanted to see how well students wrote evaluative or argumentative pieces (1976 and 1977.) In the last year (1978) the topic provides a complex blend of possibilities, allowing students to focus on either an experience, a person or thing, or an idea--a change in themselves.

The teachers were well aware that the 1973 topic, "Write about an event . . . ," was likely to evoke imaginative narratives, while the 1976 topic, "Name one invention we would be better off without..," would invite argument or exposition. They were neither surprised nor displeased, however, when, in 1973, many students wrote expositorily, choosing to identify and comment on an event they wanted to witness, rather than to relate it as if they had witnessed it; or when, in 1976, one student demonstrated the evils of television with an expert short story, while another wrote a letter to Henry Ford in heaven, berating him for having contributed to the death of the writer's parents in a car crash.

Three longitudinal samples were constructed from the Drake data base, as shown in Figure 1, each containing ninth through twelfth grade samples

----------(Insert Figure 1)----------

from 30 students. When the four papers of one student are gathered in a case study folio, it is immediately clear that students have in fact done different things on different rounds of assessment, causing their holistic scores to change in surprising ways.[1] Not only does the change in topic from year to year invite different kinds of writing, but students appear to set up different sorts of tasks that are not determined by topic differences,

but are allowed by the writing instructions. It is precisely the lattitude allowed students that makes this sample of papers so useful in giving us an idea of the repertoire of text designs or discourse schemas high school writers have available for solving a number of different writing problems. In one sense, the Drake sample represents the worst that could happen in an assessment which is attempting to measure improvement in writing from one occasion to the next. By representing such an extreme, the sample allows us to investigate the primary problem inherent in all longitudinal writing research to a greater or lesser extent: our inability so far to account for task complexity, or to compare fairly the difficulty level of what a student attempts on different occasions.[2]

A system of task descriptions is needed to determine whether or not two compositions represent the same or different types of tasks: which purposes does the student appear to be aiming for? Which strategies does he use? Only after researchers are able to describe and classify the apparent underlying discourse schemes students use will they be able to distinguish between a student's mastery of old tasks and his novice attempts to accomplish new tasks. A refined discourse typology appears essential to the development and testing of hypotheses about the relative difficulty levels of what is attempted, ultimately allowing predictions about which kinds of tasks are learned first, which may follow, and what various spontaneous task construals may indicate about a given student's particular level of development.

A Discourse Typology for Developing Writers' Texts

Available discourse classifying systems proved inadequate for describing the student texts in the sample, possibly because most of them represent

what might be called ideal text types, the products of accomplished adult writers rather than of students who may be only approximating these discourse forms. ¶ Further, existing typologies offer three to four global categories which perforce must obscure almost as many differences between texts as they are able to identify. Just as Kinneavy suggests a distinction between the aims of discourse and the modes of discourse,[3] so I found it critical to separate discourse function from rhetorical strategy. To classify texts according to function is to ask: How does the text function for the reader? How might the reader characterize the writer's underlying purposes, on the basis of the whole effect of the piece? To classify strategy, the reader shifts attention from the whole to the parts: What language structures does the writer use to accomplish her purposes? The final classification of the text then is in terms of both function and strategy: what was done and how was it done?

Figure 2 shows the three discourse functions found in the sample,

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Insert Fig. 2

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together with their parallel strategies. Although each strategy appears to"belong to"a particular function, the strategies are separable from the functions, not merely by analysis but also in practice. "What to do?" and "How to do it?" are genuinely discreet questions which a writer may choose to consider separately during composing. On the other hand, some traditional discourse schemes strongly associate a particular strategy with a given function, so that a writer in choosing to create a text according to that scheme makes his function and strategy choice in one stroke: certainly, if he wishes to tell a story, he seems bound to use a narrative strategy. Yet he might also separate narrative strategy from its usual function and use it instead to reveal an entity or to express an idea.

The separability of function and strategy becomes clearer as one contrasts the descriptions of the functions, which are organic, pertaining to the whole text, with the descriptions of the strategies, which are analytic, pertaining to the nature and arrangement of the parts.

To identify how the text functions as a whole, the reader assesses his own response: what is he left with? For discourse function Type I, the entire text appears to have no other function than to "tell a story;" that is, to dramatize an event or sequence of acts/events that occurred in a single time frame. A change of some sort occurred over time, and this change is the focus of the discourse. In discourse function Type II, the text functions to reveal the nature of an entity (person, object, place, etc.) which retains its identity and essential properties over time. For discourse function Type III, the text reveals or expresses an idea or relationship, an abstraction from concrete events and entities (beyond the linguistic abstractions which merely serve to name them), a logical, analogical, or tautological construct that exists not in time but in mind. The same real world events can provide the given material for texts that function entirely differently. The role of Winston Churchill in World War II could be dramatized as pure story, the events related in a narrative sequence as entertaining and otherwise unedifying as any suspense tale; or the story could be told as a portrait of the man--rather, a personal history, with its emphasis on the hero's character, could be made from the same events. Finally, many sorts of analyses of the events in which Churchill figured could be made in support of a variety of assertions about cause and effect, the nature of war, the potential of one individual for historic impact, etc., creating Function III discourse about ideas or the meanings and interpretations of events or evaluations of people and things.

To some extent these differences in function appear at first to be simply a matter of choice of strategy: narrative, descriptive, or commentary. In fact, the strategies listed here are so widely used to express their parallel functions that a departure from convention is noteworthy, in some cases creating a distinct genre, in other cases a failed piece of writing. It is no wonder then that strategy and function have so often been combined or confused by theorists who sought a single basis on which to classify texts, or that theorists who classified according to function assumed that strategy naturally followed. This confusion may have resulted in part not only from similarities in the terms used to describe function and strategy, but from the use of the same terms to describe both whole strategies and individual propositions.

An adequate definition of strategy, or choice of text design, must distinguish between core propositions, forming the spine of the text, and other statements which elaborate, extend, provide background for these core propositions. Linguists have made this distinction for narratives or stories (Labov and Walletsky, 1966; Hopper, 1977); here I have extended it to other discourse types. I have often been disconcerted by efforts to describe texts as narrative versus descriptive versus commentary when I could find in almost every text a lavish sampling of all these kinds of writing. A second glance at most texts further reveals that the differences between them lie not merely in relative numbers of one kind of proposition or another. Rather, the key to text design strategies seems to lie in the relations of these different kinds of elements to one another.

Figure 3 shows how a strategy can be identified by reference to which kind of propositions form the core of the text. In narrative strategy,

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Insert Figure 3

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for instance, the core propositions, forming the spine of the text, are a series of statements, like, "X happened;" "X is happening;" or "X happens;" the latter (simple present tense) occuring only when it is clearly historical present, not habitual aspect:

Historical Present: (reference to one particular occurrence)	Habitual Aspect (reference to a general, often repeated occurrence)
"The footsteps approach my door. I fix my eyes on the handle of the door, the gun steady in my hand. As the door opens, I shoot. A body crumples to its knees then topples into the room. With slowly dawning horror, I realize that I have shot my husband..."	"For breakfast, I eat more than at any other meal of the day. I drink at least 8 oz. orange juice, and another 8 oz. milk, down 6 pancakes, 4 eggs, and finish up with toast or hash browns, with cheese and melon in season."

Although there may be flashbacks, or background description and commentary, the E statements at the core mirror the order of events as they occurred in real time, forming what Hopper (1980) calls the "foreground" of the narrative, with D and C statements providing "backgrounding."

E statements require transitive or intransitive verbs, S tatements based on predicates which include linking verbs, the verb to be, or adverbs which indicate habitual aspect ("X usually is...;" "X sometimes does...;" "X used to happen;" "X would go and come..." (modal marks aspect in past tense)) are descriptive or D statements. These propositions appear as background in narration, but can be used to form the spine of a text, in which case the text strategy may be called descriptive. Note that these statements may be arranged to reflect a chronological sequence of events without creating a narrative text strategy: "Every day I get up, comb my hair, brush my teeth, yell at my little brother to make the beds, grab a bite from the fridge, and race off to the soccer field. Once there, I..." They may also be arranged to reflect spatial orderings in reality. Finally, they may be arranged associationally, mirroring the writer's thought processes and bouncing from one idea to another with connections visible only to the writer, or focally,

grouped according to some key aspect of the entity being described. (See Freedman and Pringle, 1982.) The term "entity" is used loosely here: such abstractions as "my summer vacation" may be treated as entities having consistent and identifiable characteristics, and may be written about using a descriptive strategy by presenting "a typical day in the course of..." It is a question in determining function, not strategy, to wonder just how abstract the subject of the piece is: when does summer vacation cease to function as an entityto be described and begin to function as an idea to be explored? Yet it is strategy that most often provides the answer to that question, the arrangement of propositions determining that a writer has crossed the line between description and commentary.

In Type C strategy, common to exposition and argument, C propositions, or commentary,form the core of the text. E and D statements may appear in large numbers, with several E statements strung together to form a mini-narrative, but in all cases descriptive or narrative propositions will be subordinate to the C statements which they support, demonstrate, elaborate, define, etc. In addition, there may be C statements which are subordinate to the core propositions, that chain of assertions which provides the main thrust of the text. The core propositions can be arranged associationally or focally, as in Strategy B (description), or they can be arranged hierarchically, according to their logical relations. The assertions do not have chronological or spatial connections to one another, though they may be arranged to comment on chronological progressions and so appear chronologically ordered.

C statements are recognized in several ways: 1) the verb is marked by a modal: "X should, would, could, might, will happen...;" 2) the verb is marked by a negative: "X never does...;" "X did not happen..;" 3) the main proposition is imbedded as a noun clause of indirect quotation:"(Writer/X) believes, thinks,

feels, wishes, hopes that...;" or with a qualifying expletive: "It seems that...;" "It is clear that..;" 3) relationships of causality, comparison, opposition are expressed either through predication within a clause: "X is like..;" "X is caused by..;" "X causes..;"or by coordinating or subordinating conjunctions and introductory adverbs relating two clauses: "If X, then Y..;" "Because X, then Y..;" "Either X or Y..;" "Not X, but Y..;" "X is not true; rather, Y happened;" 4) the predicate defines and classifies the subject with relation to other things: "X is a kind of..;" "X is one of two kinds of..;" 5) the verb structure is like that of narration or description ("X is/was;" "X does/did ") but X represents an abstract subject: either a non-count noun ("money;" "water"), a hypothetical construct ("democracy;" "competence"), a feeling state or emotion ("love;" "anxiety"), a nominalized verb ("registration;" "confusion;" "obfuscation;" "segregation"), or a noun that has generic rather than specific reference, as shown by context:

generic referent:	specific referent:
"The family in America today is in danger of extinction."	"The family down the block is in danger of bankruptcy."
"(The)people who believe that kind of propaganda are uneducated."	"The people (who are) climbing into the lifeboats are unafraid."

Two kinds of development are involved as a writer masters these text design strategies: the acquisition of a new strategy, increasing the range of choices available to the writer; and the progression from novice to expert within one strategy. Both kinds of development almost certainly involve transition stages during which a writer may produce a text that is difficult to classify, or that is successful in neither one way nor another, representing only partial mastery of a text grammar. Figuring out where a student is on the road to full mastery of text design strategies is further complicated by the existence of sub-classes of each of the three strategies, as well as the possibility of deliberate mixes of strategy to accomplish certain ends.

Figure 4 represents possible lines of development and acquisition for the three strategies described, and places these in the larger context of other discourse strategies not classified in this limited typology of student text types. The diagram distinguishes among three classes of strategies--pre-schema, open-schema, and closed-schema, which are probably acquired in that order by the language user in our culture. Pre-schema strategies are most comparable to Britton's "expressive writing," relatively idiosyncratic structuring of discourse reflecting the writer/speaker's own flow of thought or "inner speech,"requiring little or no pre-planning, allowing the sender merely to think aloud or "compose at the point of utterance." (Britton, 1975.) I coined the term "pre-schema" to help understand papers in the sample that seemed strategy-less. On reflecting, I realized that following one's thought is itself a composing strategy, but one which does not recognize and use discourse schemas conventionalized in other people's discourse. To some extent, of course, what I have called pre-schema strategies have become conventionalized, as fiction writers, particularly, present characters who narrate in their own voices. This kind of artful artlessness in the hands of skilled writers mimics the natural means of expression of writers/speakers who are not able or do not choose to adopt the strategies developed specifically to serve the needs of closed-schema discourse.[4] In the student papers, it was generally easy to distinguish between spontaneous pre-schema strategies, usually appearing as rudimentary ruminations on strongly expository topics, and simulated pre-schema strategies in which a narrator other than the writer introduces him/herself before engaging in a self-exploratory interior monologue, a popular solution to the 1974 and 1975 topics about being someone or something other than yourself.

The open-schema strategies represented in Figure 4 were posited to account for another group of student papers (as well as literary prototypes) not classifiable as belonging to any of the closed-schema strategies. The distinction between open and closed discourse schemas is made by Bereiter & Scardamalia (1979) and others as an alternative to distinctions made between oral and written discourse. Typically oral speech occurs in open schemas, where one does not structure the discourse alone but is aided by conversational partners. Bereiter and Scardamalia point out that one of the difficulties for children learning to write is the problem of "going it alone," or creating monologues as opposed to dialogues. But not all oral speech is dialogue--as witness speeches or lengthy oral narratives; and not all written speech is monologue--consider active correspondences or note-passing in the classroom. Closed-schemas, discourses not dependent on interruptions and interactions, have features in common whether they involve oral or written mediums that distinguish them from open-schemas, which have their own features, present for both oral and written speech. Nonetheless, it is probably true that we learn open-schema strategies first because we learn oral speech first in its most common form, the oral dyad. Only later do we learn to make monologues, these becoming increasingly decontextualized or independent of shared speaker/listener context for their interpretation as we master the closed-schema strategies for supplying context within text.

Like pre-schema strategies, the open-schema strategies may be real, as when I write a real letter I intend to mail, or simulated, as when a writer tells a story in a letter or series of letters. The short story anthology Points of View (Moffett & McElheny, 1966) containing examples of simulated pre-schema discourse ("interior monologue" and journal entries) and open-schema ("dramatic monologue" and letters), was widely used in English composition

classes at Drake during the assessment years, a fact which may account for the appearance of these simulated open-schemas in the sample. In most cases, the elements of open-schema strategies (especially phatic comments, aimed at establishing a relationship between reader and writer rather than at communicating content: "HI! How have you been?" "Well, you're not going to believe this." "I know you'll think I'm crazy.") are used to frame clear whole pieces of discourse using easily classified closed-schema strategies, in which case the writing was classified using the typology. In some cases, however, the student created such a strong sense that writer and reader were engaged in a dyad that the closed-schema typology could not apply--the papers belonged on another map.

In drawing the lines of development for Figure 4, I have attempted to show that expert use of any strategy is as cognitively advanced as expert use of any other strategy, and that writers may reach expert status for different strategies in almost any order, maybe becoming expert in only one strategy while remaining novice at all others. The direction of development, from left to right across the chart, is meant to suggest the likely order of initially acquiring the different strategies, given schooling in our society, and perhaps given the nature of cognitive development and the cognitive demands of the respective strategies. For instance, some aspects of commentative strategy appear to rely on a student's having entered Piaget's stage of "formal operations." Moffet (1968) describes the same direction of development, saying that young children write sustained concrete discourse (stories) with an occasional abstraction, and that only older children appear able to write sustained abstract discourse, learning to imbed the concrete references.

I anticipate a problem for evaluators when faced with the texts of children who are <u>in transition</u> between the points represented on the chart:

either because they are attempting to imitate a strategy they do not fully own, having just begun to learn it in school or having encountered it in reading, and do not yet have need of, not understanding the function for which the strategy was developed; or because they have encountered a new function--for instance, the need to express an idea--which their current strategy seems inadequate to deal with. This latter dilemma may drive a writer back into pre-schema strategy in a search for a language adequate to the new challenge. For evaluators concerned with documenting growth using improved scores on writing tests the problem is compounded when a student develops a high level of expertise in using one strategy, which he uses successfully in earlier writing, but later attempts to use another strategy at which he is a novice.

The writer has at least two other kinds of discourse options not represented in Figures 2-4, both of which may represent more cognitively complex task constructions than so far described because they involve re-combining elements of function and structure in less obvious ways. The first, already mentioned, are the cross-combinations of function and strategy made possible by separating these two aspects of composing.

A peculiar feature of the typology is that cross-combinations of function and strategy appear to be uni-directional: that is, more concrete strategies can be used to realize more abstract functions, but more abstract strategies cannot be used to realize more concrete functions. Figure 2 divides the discourse schemas that result from combinations of function and strategy into primary and secondary discourse types and provides the combining rule. It will be obvious to most readers that, while Function I is bound to narrative strategy, narrative strategy is not limited to the function of telling a story: a reader may complete a narrative realizing he has been preached to--that what was

at stake was an idea, not a set of events, a plot, a character. The possibility of using narrative to do more than tell a story may be at the heart of the difference between good second-rank entertainment novels in various genre and novels that compete as serious literature. This has nothing to do with what "lasts." Some good stories will last just because they are good stories. Other works will last because of something they reveal about the human condition, rather than because of a suspenseful plot and fast action.

One may argue, of course, that really good literature functions both as good story and as vehicle for an idea, which argument **introduces the second kind of re-combining of elements in more complex task constructions.**

I have found in the sample, as in the real world of adult writing, clearly distinct types of writing which seem to me to be best described as combining two functions, and/or two or more strategies. These mixes are not necessarily "mixed-up"; although inexperienced writers seem to lose track of function or shift strategy mid-way, producing mixed-up pieces, better writers seem able in many cases to produce controlled combinations identifiable as discourse schemes distinct from any of the pure types. Some examples will clarify the possible permutations of the system:

I Function: tell a story; with Stratgy A: narrative: One student wrote about the adventures of "Freddy the Fish" in response to the '75 topic; a picaresque tale with no apparent point, and no attempt to reveal why the writer might have wanted to share this particular life. Another student wrote what might have been a good episode for "Mission Impossible." Both used narrative strategy to tell a story, nothing more.

I-III Function: tell a story and reveal an idea; with Strategy A: narrative. A remarkable short story captures the moment of truth in the life of a young terrorist, who, feeling conscience-stricken in the act of setting charges to blow up a bridge, likens himself to the carnivores, who

by preying on deer and elk thin the herd and keep it healthy. This came in response to the 1974 topic, "choose to be something other than a human being":the student explores in his story the problem of why anyone might choose to be, or to see himself as, other than human.

I-III Function: tell a story and reveal an idea; with Strategy A-C: narrative and commentary. This class of writing is familiar as the autobiographical essay, or reminiscence, memoir, etc. which has before been inadequately characterized and confusingly classified by systems which distinguished narrative from expository writing and then had to decide where these pieces belonged. This kind of writing is widely featured in popular magazines, essay anthologies for Freshman composition courses, and as classroom assignments, from the first time a teacher says, "Write about your summer vacation." Unlike good story-telling which requires that the commentary serve the narration , or good exposition, which requires that narration be subordinated to commentary, the personal experience essay requires a balance of both strategies. It is organized and functions as a story, but it is the story of an idea--a realization, a discovery, an insight the writer had as a result of a series of events. The discussion of the ideas--what I understood before, what I understand now--is as important as the relating of events, but is itself couched in a narrative, or at least a chronological framework. In an effectively fused piece, a reader might find it difficult on concluding to decide whether she had just read an essay or a short story--simply because both those terms must be used so loosely to apply to this kind of contemplative autobiography.

III Function: reveal an idea; with Strategy C. This kind of text was common in response to the 1976 topic, naturally, and represents traditional notions of formal argument or exposition. A thesis is set forth, and is followed by a series of commentary propositions, with any descriptive or

narrative material introduced as elaboration or support, a kind of backgrounding for these core comments which make up the writer's argument.

III Function: express an idea; with Strategy A. There was only one clear case of this in the sample, but prototypes in literature would include morality tales and allegories, where the concrete events in the story represent what are believed to be general truths, not real occurrences.

Combinations of Function II and Strategy B with other functions and strategies will be fully described in the report on the Drake data. At first count after coding, it appears that the typology was able to account for better than 90% of papers in the sample, with the other 10% falling into pre-schema or open-schema categories. The primary types, with matched function and strategy, appeared to be marginally preferred solutions for every topic/year, although which primary type was preferred sometimes differed within topic, depending on grade level. Almost every kind of mix listed in Figure 2 as possible was included in the sample, with some mixes causing more trouble in coding than others. No attempt was made in the early stages of coding to distinguish between "mixed-up" papers and apparently controlled combinations; it is expected that different kinds of mixes can be coded in the future to provide additional information about a writer's level of control over his or her chosen strategy or discourse type.

CHOOSING A STRATEGY

In some cases, the success of a piece of writing in which a concrete strategy fulfills an abstract function may be accidental. That is, the writer may be unaware of the rich and complex meanings readers are able to infer from his text. In the Drake sample, however, successful crossing of strategy and function are generally regarded as intentional and are seen to represent a highly complex task construction, available only to more experienced composers.

Similarly, a successful mix of two functions or two strategies tends to result in a text that is recognizably like a prototype in adult prose, so that the writer can be credited with having attempted a more complex task, the creation of a secondary discourse type. But when one of these conventional kinds of mix is not in evidence, it is not clear whether the writer was attempting such a mix or was merely shifting ground, attempting to cope with topic constraints she felt were conflicting, or to cover weaknesses in her own repetoire of strategies.

Empirical research is needed to help discover why a student construes a task as he does: what is the range of options he thinks he has? How does he want his text to function and why did he set that goal? What strategies will he choose to reach his goal? Is he an oldtimer or a newcomer to his chosen strategy? What awarenesses of text grammar appear to influence his whole text planning or his sentence level planning? How is the onset of text level planning related to increasing awareness of discourse schemas? The discourse typology, refined and clarified, may be of some use in exploring these questions, questions which may help us discover why and how students change the difficulty of what they attempt, even when a tester may intend task demands to be parallel. These questions may also help us define task complexity in new ways, allowing more precise evaluation of changes or growth in composing ability.

While discourse functions may be recognized on a deep, fairly unconscious level, I believe that strategies can be made conscious, learned deliberately, and applied selectively. On the other hand, experience with writers like those in the sample suggests that students, in selecting a strategy, are generally working from a confusing array of instincts and inhibitions which have little to do with the appropriateness of the strategy to the desired function.

Table 2 outlines some factors I think may influence a student's choice of strategy, whether pre-schema or schema-based. Future research will determine whether these are real and how they may operate for given students. I may assert, logically, however, that availability is absolutely determining. A writer cannot use a strategy which is not available to him. Given the availability of more than one schema-based strategy, together with the universal availability of the strategy I call pre-schema, any or all of the remaining factors may come into play in any combination. I suspect that some of these create conflicts for the writer and that keeping these factors in mind will help researchers understand papers whose task constructions are not easily classifiable by the typology.

It is premature to judge how well this typology will assist efforts to define task complexity in writing or to assess a student writer's level of development on the basis of texts produced for evaluation. So far, informal sharing with teachers of composition suggests that the typology can have a clarifying effect of distinguishing among types of writing tasks set by or for students and can help teachers identify some of the strategies students may have only partially mastered or may be moving between. A teacher of high school juniors identified two kinds of text typical of students in intermediate stages between mastery of narrative and mastery of commentative strategy. She submitted these two samples:

> Assignment: It is said that we learn best from our mistakes. Agree or disagree, drawing on examples from your own experience.
>
> Stage One, student response: "It is said that we learn best from our mistakes. I know of one time when I learned an important lesson by doing something stupid. I was twelve at the time... (narrates event: four pages of lively story-telling.) ...I thought my mother was paranoid, but now I know I'll be telling my kids, "You shouldn't trust strangers."

Stage Two, student response: "It is said that we learn best from our mistakes. That is probably true because until we make a mistake we don't have any reason to want to know something. I have learned a lot of things by making mistakes, and most of these have stayed with me more than the things I learned by studying courses in school or reading or listening to what my parents or other people told me. Maybe those things stuck in my mind because it's so humiliating to make a mistake. You can't forget the embarrassment, and you'd rather risk death than risk that again.

"It's good to remember that our mistakes teach us something and that we don't have to be ashamed to do something wrong, especially when we didn't know any better. That is how we learn. Being afraid of making mistakes can keep you from learning."

The first student is still largely committed to narrative strategy: her introduction and conclusion are concessions to the expository nature of the prompt, but they are minimal, interfering as little as possible with the story. Students less aware of essay requirements often ignore even these concessions, beginning, "It happened when I was twelve..." or, "One time, when I was twelve, ..." A teacher wanting to lead a stage one writer further into the language of ideas might ask the student simply to expand the commentary of the opening and/or the closing, or to write a second narrative of another time when she learned from a mistake, then to write a paragraph comparing or contrasting the two experiences, drawing some conclusions about how or why people learn from mistakes.

The second student has fully abandoned narrative strategy, with a common result: he is able to produce only two paragraphs. These paragraphs are rich in insights worth exploring in an essay. Further, they present a paradox which will require more thinking by the student if he is to untangle it: the first paragraph suggests that being afraid of making mistakes, or being ashamed, is why we learn from our mistakes; the second suggests that being afraid of making mistakes may keep us from learning. Two good ideas; the paradox is only apparent. But the paradox <u>is</u> apparent, rather than hidden,

because the student risked talking about ideas, struggling to make explicit understandings which were only intuitive before. The struggle is essential if the student is to acquire that all-purpose academic discourse schema: Function III, Strategy C, expressing an idea using commentary as the core of the text, working out the logical relations between the parts of the idea. But the stage two student is often greeted with such negative evaluations he may be excused for wanting to retreat to the old successes of stage one or even pure narrative. "This is too short. You contradict yourself. You don't have a single conrete example from your own experience. You shift points of view, from first to second person; and what is this? the royal 'we'?" As the student says, "Being afraid of making mistakes can keep you from learning."

Neither of these essays would receive a top score during a holistic assessment in which at least some students managed to produce Strategy C essays of better than novice quality, essays which included a full range of propositions from abstract to concrete, with concrete description or narration carefully attached to commentary statements, which in turn were arranged to form a coherent core argument. But it is highly likely that raters would prefer the stage one paper with its expert use of narrative strategy to the stage two paper of the novice commentator with its all too evident flaws. No provision could be made for recording that the stage two writer may have moved closer to the goal than the stage one writer if one compared their respective task constructions.

Much greater clarification of discourse features, and of the role played by text level expectations of both writers and readers, seems needed before it will be possible meaningfully to measure improvement in composing abilities.

NOTES

1 The papers in the sample were pooled across all topics, all years, in a single holistic scoring, to obtain scores that allowed comparison of all papers according to a general impression of quality. Details of this scoring will be available in the final report on this research, from the NIE Writing Assessment Project, Marcia Farr, NIE Project Officer, Reading and Language Studies, Grant No. NIE-G-80-0034, c/o the Bay Area Writing Project, University of California, Berkeley. Working title: Technical Report No. 5, The Drake Longitudinal Study.

2 It is important not to confuse task complexity with text complexity. Joe Williams makes this critical distinction (1979), pointing out that very complex cognitive activity may be required to produce a text that is simple and direct from the reader's point of view, while a very complex text may be produced by the simple expedient of transcribing thoughts as they occur to the writer.

3 Kinneavy (1979) describes the aims of discourse in a volume which exhaustively analyzes examples of each type, attempting to establish stylistic features these texts have in common, while reserving his discussion of the "modes" of discourse to a later volume, not yet printed. It is with some hesitation that I offer yet another discourse classification, rather than waiting for his definitive second work, but I find his system useless for the student sample in question, as well as inadequate to account for many text types I have encountered in adult letters, both in and out of academia. The separability of function and strategy suggests the need to classify each text on both counts in order to describe its essential differences from other texts, rather than first classifying all texts according to function or aim, as Kinneavy appears to do, reserving til later an attempt to describe their modes. As can be seen in the application of my typology, Function A in combination with Strategy A results in a very different kind of text from a text which combines Function C with Strategy A, and this difference establishes a different class of text rather than one being a sub-species of the other.

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Table 1

Topics Used in Six Years of Drake Writing Assessment

1973	Write about an event you wish you had witnessed or could witness. The event can be real or imagined; the time of the event can be past, present or future. Make it clear why the event is significant to you. You may write a journal entry, letter, dialogue, monologue, essay, story, autobiography, or other form.
1974	If you had to choose to be something other than a human being, what plant or animal or other form would you choose? In your writing, give your reader some idea of what you think it would be like to be that form, and of why you chose it. You may do this writing as a journal entry, a letter, a dialogue, a story, an autobiography, an essay, a poem, etc.
1975	If you could change places with someone else, who would it be? The person you write about can be living, dead, drawn from past or present, from books, films, etc., or from your own imagination. In your writing give your reader some idea of what it would be like to be that person, and of why that life appeals to you. You may do this writing as a journal entry, character sketch, dialogue, letter, story, autobiographical essay, argument, poem, or other form.
1976	Not all inventions have been good for all humanity. Name one invention we would be better off without, and make it clear why. You may do this writing as an essay, journal, letter, story, or other form.
1977	Imagine that a small group of people will be sent to colonize a new planet. Food, Clothing, shelter and transportation have been provided for. You are among those asked to select a few additional things to be sent along in the limited space available in the ship. What one item would you recommend, and why? You may write your recommendation in the form of a story, a dialogue, a letter, a speech, an essay or other form.
1978	Write about some way in which your life has been, or might be influenced. You might write about the influence of another person, a book or film, an idea, or an event such as a triumph or defeat, or a sudden gain or loss. Make it clear just what or who influenced you, and what the effect was upon you, or what the effect could be upon you. You may do this writing as a journal entry, character sketch, dialogue, letter, story, autobiographical essay, or other form.

Table 2. CHOOSING A STRATEGY

A list of factors which may determine or affect a student's choice of strategy, whether pre-schema or schema-based.

1. AVAILABILITY. (Which strategies does the student have in repetoire?)

2. PREFERENCE. (Does the student prefer some strategies because of familiarity, facility, regardless of purpose or context of the writing task?)

3. APPROPRIATENESS TO CONTEXT. (Does the student have ideas about what strategies are appropriate to writing tests, regardless of topic, or the importance of applying recently learned strategies to demonstrate mastery, regardless of their naturalness for a given purpose or assignment?)

4. APPROPRIATENESS TO GIVEN TASK. (Certain topics suggest explicitly, or tend to elicit certain strategies, by eliciting certain purposes which are most easily accomplished with matching strategies, e.g., tell a story is only accomplished by narrative.)

5. APPROPRIATENESS TO WRITER'S CHOSEN PURPOSE. (If writer chooses a purpose other than the obvious one suggested by the topic, he may choose a strategy appropriate to his own purpose rather than one appropriate to the expected purpose suggested by the topic.)

6. IDIOSYNCRATIC OR HIGHER ORDER CRITERIA. (The writer may have personal criteria, such as wishing to be novel or unusual, which may influence him to choose an uncommon solution: for instance, deliberately mismatching purpose and strategy because he does not wish to do the obvious, or because he believes he can achieve his purpose more effectively, perceiving a complex interaction between form and function which will communicate more than he might should he use expected strategies for a given purpose.)

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	1973	1974	1975	1976	1977	1978
FRESHMAN	Cohort I 30	Cohort II 30	Cohort III 30	30 papers	30 papers	30 papers
SOPHOMORE	30 papers	Cohort I 30	Cohort II 30	Cohort III 30	30 papers	30 papers
JUNIOR	30 papers	30 papers	Cohort I 30	Cohort II 30	Cohort III 30	30 papers
SENIOR	30 papers	30 papers	30 papers	Cohort I 30	Cohort II 30	Cohort III 30
				30 students 120 papers	30 students 120 papers	30 students 120 papers
				Cohort I, class of 76	Cohort II, class of 77	Cohort III, Class of 78

Total papers= 720
Three longitudinal samples= 360 papers
Supplementary sampling = 360

Figure 1. Sample Population

Figure 2.

A Discourse Typology: describing the task constructions found in student prose written in response to 6 prompts.

Discourse Function	Discourse Focus	Discourse Strategy
I.		A.
TELL A STORY	Change over Time	narration
II.		B.
REVEAL AN ENTITY	Identity over Time	description
III.		C.
EXPRESS AN IDEA	Relations beyond Time	commentary

Discourse types, resulting from combinations of function and strategy found in the sample or in adult literature:

1. Primary types, matched function/strategy: IA; IIB; IIIC.
2. Primary types, mixed function/strategy: IIA; * ; IIIA; IIIB.
3. Secondary types, matched function/strategy: I-III/A-C; I-II/A-B; II-III/B-C.
4. Secondary types, mixed function/strategy; I-II/A; II/A-B; I-III/A; I-III/A-B; II-III/A; II-III/A-B; II-III/A-C; etc.*

*Combining rule (empirically derived) allows more concrete strategies to serve more abstract functions, but concrete functions cannot be served by more abstract strategies: hence, Function I can only be realized by Strategy A; Function II by strategies A and B (ideally); and Function III by any strategy, A, B, or C. By this rule there should be no IB, or IC (true, in fact); or II/C, or II-III/C (these latter occur.)

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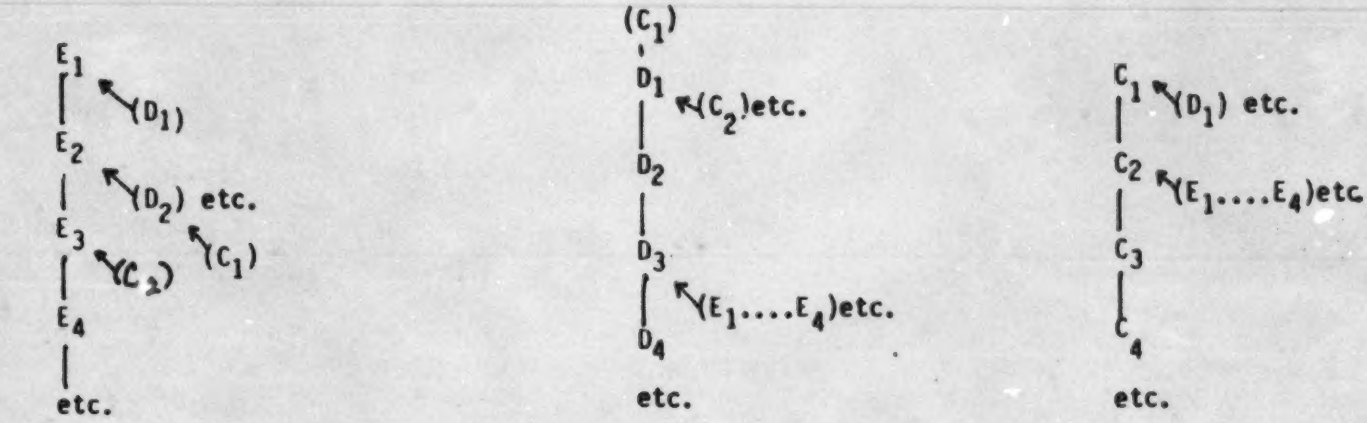
Figure 3.

Proposition Structure of Three Discourse Strategies:



E = Event statements: "X happened." "X is happening." "X did..."

D = Descriptive statements: "X is..." "X does..." "X happens..." (habitual aspect and/or linking verbs in predicate; subject of verb refers to actual entity or action treated as entity, not to hypothetical construct.)

C = Commentative statements: (assertion, interpretation, evaluation, classification, etc)
"X should be..." "X might be..." "X did not..." (modals, negatives)
"X is caused by..." "X causes..." "X can be classified as..." (relatives)
"X means..." "That X happened signifies..." (interpretations)
(Also, descriptive statements like "X is..." become commentative when subject or subject complements are hypothetical constructs.)

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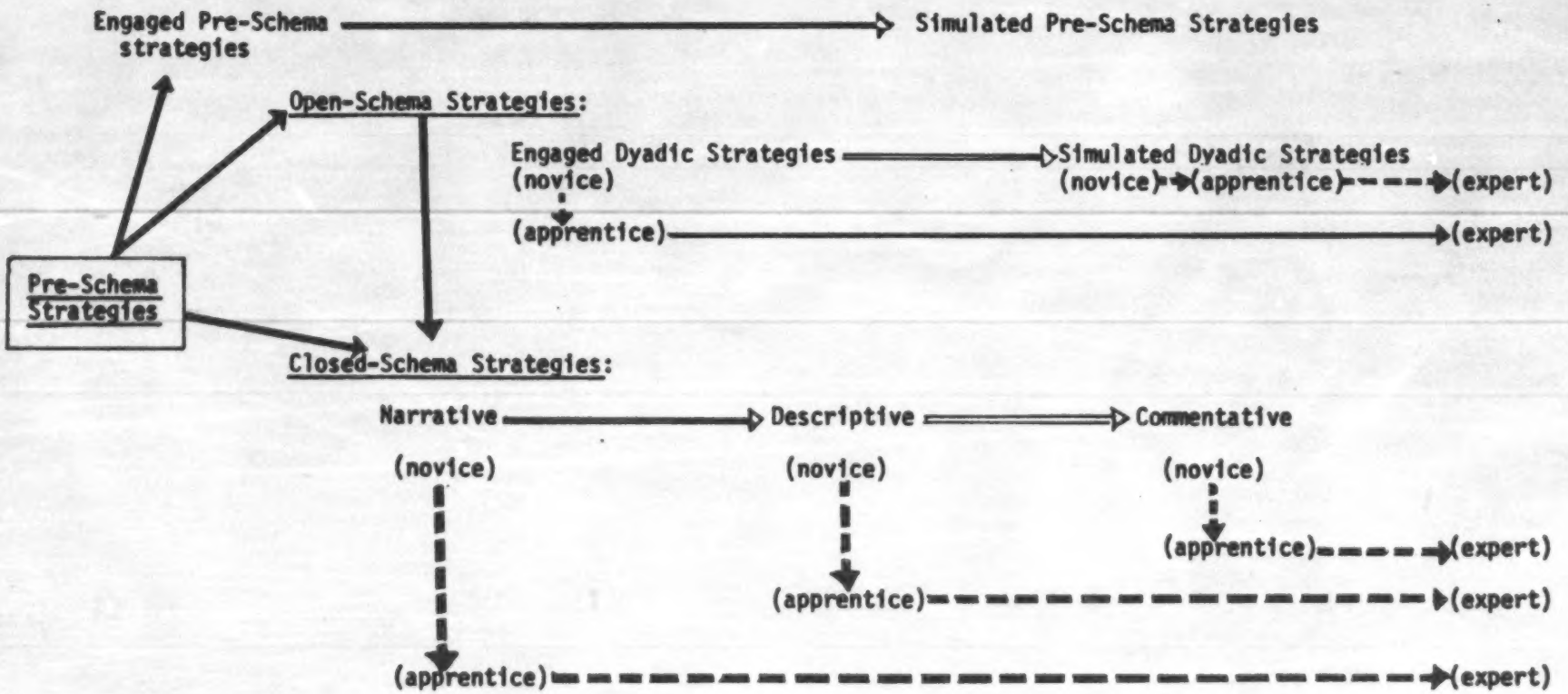
Figure 4. Hypothesized Chronology of the Acquisition and Development of Writing Strategies.



hypothesized direction of development, between schema types.

hypothesized direction of development within schema types, between strategy types

logically required direction of development within strategy, which may in actuality be broken by stops and reversals along the way

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